

PT COATING INITIATED BY INDIRECT ELECTRON BEAM FOR RESIST CONTACT HOLE METROLOGY

Abstract

The invention surrounds a partially completed integrated circuit structure, having topographical features such as rvias with a precursor organic metal gas and then directs an angled electron beam at the partially completed integrated circuit structure to create secondary electron beams as the angled electron beam strikes the sidewalls of vias. The secondary electron beams break down the precursor metal gas to form a metal coating, without damaging the top layer (or underlying layers). This process directs the electron beam at an angle sufficient to cause the electron beam to strike only the sidewalls of the vias and prevent the electron beam from reaching the bottom of the vias, so as to not damage the vias during the metal formation process. After the protective metal layer is formed, the invention directs an ion beam at the partially completed integrated circuit structure to form a groove within the top layer and allows inspection of the cross sections of the vias exposed by the groove.